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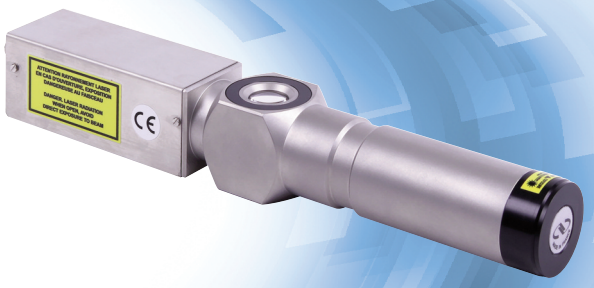
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Find the *Newport CONEX-LDS* at our website: ***Click HERE***

Electronic Autocollimator



CONEX-LDS

RoHS Compliant

The CONEX-LDS autocollimator performs high-resolution, non-contact angular measurements for alignment, quality assurance and metrology applications. The controller is integrated in the body of the autocollimator making it ideal for systems integration or as a portable metrology tool. The CONEX-LDS is used in the highest precision applications performing high resolution angular measurements at over distances of up to 5 meters.

Sensitive Angular Measurements

The resolution of the CONEX-LDS is actually 0.003 µrad. Including the sensor noise, the sensitivity stays at 0.01 µrad, which is a very excellent value for angular measurement.

Fast Data Acquisition

The CONEX controller works in junction with the internal position sensor detector to provide high speed data acquisition rates up to 2 kHz. This feature is ideal for vibration measurements, structural drift, or even metrology applications like wobble measurements of bearings.

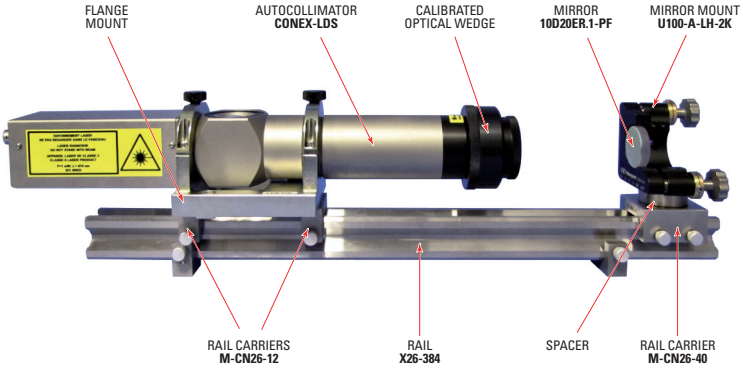
Convenient Alignment Window

Newport's CONEX-LDS supplies an intuitive, built-in alignment window used for coarse alignment of the optics. This allows the user to manually and quickly setup the autocollimator.

Certification and Quick Verification of Calibration

A calibration report is provided with each individual unit, certifying its performance. CONEX-LDS-VER is available to easily verify the unit's calibration on a regular basis. If the unit is out of calibration, it can be returned to the factory for re-calibration.

- High sensitivity with angular measurements down to 0.01 µrad
- Fast acquisition at 2 kHz
- Simple to setup using the alignment window
- Easy to use software
- Safe operation (Class II Laser Device)
- Every unit individually tested and delivered with calibration and certification report



Ideal Tool for Many Applications

The CONEX-LDS is ideal for:

- pitch and yaw measurements
- rotation stage accuracy measurements
- rotation axis orthogonality measurements
- surface flatness measurements
- settling time and stage damping analysis
- vibration analysis
- wobble control
- beam set-up and alignment
- machine alignments

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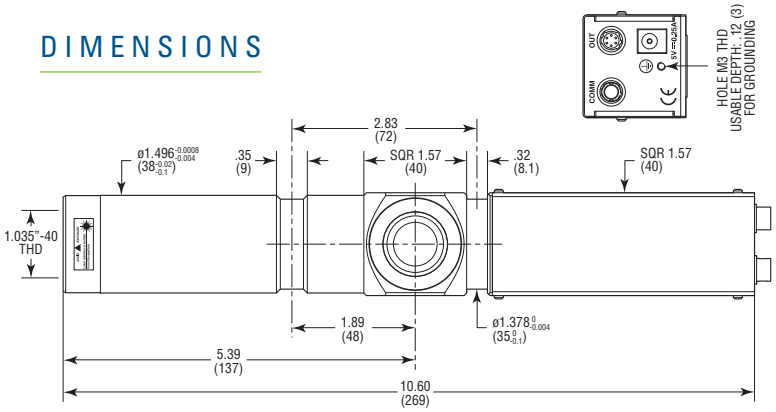
Easy-to-Use GUI with Out-of-the-box Control

For out-of-the box control, the CONEX controller is preconfigured and delivered with the sensor. To start using the CONEX-LDS, the device simply requires plugging in the power supply, connecting the USB communication, and starting the free GUI. Once the GUI has been started, the layout is intuitive and straightforward. From the front panel, the user can access graphical displays of gathered data.

Built-in Controller

A very compact controller is integrated into the autocollimator head of the CONEX-LDS. This allows for easy setup, smaller footprint, lightweight design, and easy connections directly to the PC and power.

DIMENSIONS



ORDERING INFORMATION

Model	Description
CONEX-LDS	Electronic Autocollimator
CONEX-LDS-VER [1]	Verification Kit
CONEX-LDS-USB-422	USB to RS-422 Converter
ETH-RS422-EU	Ethernet to RS-422 Converter
CONEX-LDS-CABLE20	20 m Cable
CONEX-LDS-PS	Power Supply

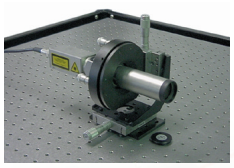
[1] The verification kit is a stand alone kit which includes a calibrated optical wedge fitted into a mechanical mount and all associated clamps and rod. The slide is delivered with a calibration certificate which provides the value of the angle of deviation which it produces on the autocollimator's beam. This kit allows user to verify that the CONEX-LDS is still within its calibration limits set in the factory. The applet will guide you through the verification process.

DETAILS AND SPECIFICATIONS

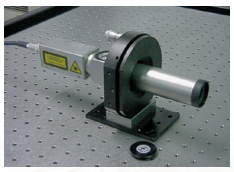
Dynamic Resolution (µrad)	0.01
Accuracy (µrad)	±5 ±(0.02 x measurement) (±5 µrad around 0: [-250 µrad; +250 µrad]) (i.e. 2%)
Beam Diameter (mm)	22.5
Beam Divergence (µrad)	100
Beam Direction (µrad)	500 in relation with autocollimator body
Equivalent Focal Length (mm)	250
Measuring Range (m)	5
Measurement Field (µrad)	±2000
Ocular Field - Eyepiece (mrad)	±15 (±0.85°)
Reflector	Min. 2% reflectivity
Noise RMS (µrad/√Hz)	0.003 (at 100% reflectivity)
Weight [lb. (kg)]	2.4 (1.1)
Communication Interface	RS-422 accessible through a USB to RS-422 converter or Ethernet to RS-422 converter
Protocol	ASCII
16-Bit Analog Outputs	±5 V; adjustable filter and gain
Data Acquisition Frequency (Hz)	2000
2nd Order Low Pass Frequency	Adjustable from 1 to 2000 Hz
Source	Visible laser diode modulated at 5 kHz; circular polarized
Wavelength (nm)	670
Peak Power (mW)	<1 (Class II)
Operating Temperature Range (°C)	+15 to +25
Storage Temperature Range (°C)	-10 to +50
Power Supply	90/264 V, 50/60 Hz, 30 VA

ACCESSORIES

Model	Description	Axis Height (mm)	Angular Range (°)	Centering Travel (mm)
CONEX-LDS-SLXY	Precision Adjustable Four Axis Mount, XYθxθy	100	±2	±12.5
CONEX-LDS-SL	Precision Adjustable Two Axis Mount, θxθy	75	±2	–



CONEX-LDS-SLXY



CONEX-LDS-SL

Mounts are available to facilitate setting up the CONEX-LDS autocollimator. With two angular and two linear axes, the CONEX-LDS-SLXY is the most flexible mount. The CONEX-LDS-SL mount provides only two angular adjustments

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Newport Corporation, Global Headquarters
1791 Deere Avenue, Irvine, CA 92606, USA
www.newport.com
PHONE: 1-800-222-6440 1-949-863-3144 FAX: 1-949-253-1680 EMAIL: sales@newport.com
Complete listings for all global office locations are available online at www.newport.com/contact

Newport Corporation, Irvine, California and Franklin, Massachusetts; Evry and Beaune-la-Rolande, France and Wuxi, China have all been certified compliant with ISO 9001 by the British Standards Institution. Santa Clara, California is DNV certified.

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